Corrosion Network (CORNET)

Malé Declaration on the Control and Prevention of Air Pollution in South Asia and its Likely Transboundary Effects **&** **Air Pollution Information Network for Africa (APINA)**

Minutes of the 1st Meeting of the Programme Task Force of CORNET

October 11, 2006 Asian Institute of Technology (AIT), in Bangkok, Thailand.

1. Opening of the meeting

   Johan Tidblad opened the meeting, welcomed the participants and expressed his thanks to the regional office in Bangkok for hosting the meeting.

2. Approval of Draft Agenda

   The draft agenda distributed was approved.

3. Introduction

   Johan Tidblad stressed the main aims of the meeting, namely to discuss the status and the results obtained in the 4-year RAPIDC exposure programme, the 1-year trend exposure programme and the start of exposure on new test sites.

4. Experiences from the Task Force meetings of the UNECE ICP Materials of the Convention on Long-Range Transboundary Air Pollution

   Johan Tidblad gave a brief overview of the activities and organisation of the ICP Materials, that is the corresponding body to CORNET, and its Task Force and of the organisation and activities of the LRTAP Convention and its protocols.

5. Discussion on results and analyses from the 4-year RAPIDC exposure programme:

   a) Measurements and reporting of environmental data
   The individual participants gave an account for the status of reporting of environmental data on their test sites.

   b) Presentation and discussion of results for steel, zinc, copper, painted steel and limestone after 2 years of exposure
   Farid Samie presented the results obtained after evaluation of the samples after 2-years exposure performed at KIMAB. For most materials and test sites the results are consistent with the corrosion attack obtained after 1-year exposure. A rapid increase of spread of delamination from the scribe on painted steel specimens has occurred on some sites during the second year. The results will be available on the CD containing the documentation from the Bangkok workshop.

c) Status of 4-year samples shipped to the Corrosion and Metals Research Institute

Farid Samie conducted a round-table inventory of the status of delivery of 4-year samples to KIMAB. All material samples have been sent to KIMAB with the exception of the Kitwe site, where the specimens will be withdrawn and shipped shortly.

6. Discussion on the 1-year trend exposure

Johan Tidblad explained the two aims of the trend exposure:

- the scientific one which consists of evaluation of the repeated 1-year exposed specimens from the period 2005/2006 that will be performed at KIMAB
- the transfer of knowledge by training consisting in evaluation of the three specimens of metals by pickling in the individual laboratories that may wish to do so and by evaluation of painted specimens and stone specimens by weighing (before sending them to KIMAB)

a) Discussion on intentions and possibilities of individual partners for evaluation of corrosion attack

- India does not have access to an ultrasonic bath but will perform the evaluation within 3-4 months with available equipment.
- Thailand and Vietnam will perform the evaluation within 2 months.
- Malaysia and China (ChongQin and Hong Kong) will report within 1 month if they will be able to perform the evaluation.
- APINA countries intend to perform the evaluation as a group in the beginning of 2007.
- KIMAB will perform the analyses within 1 months after arrival of all specimens.

Decision: All paint coated and stone specimens will be analysed in the respective laboratories (non-destructive evaluation) and sent to KIMAB at the latest 2006-12-31.

7. Discussion on exposure of samples at new test sites
   - Sri Lanka – rack has arrived, the site will be on the roof of the met. office building in Colombo, preliminary start date 26 November.
   - India – rack has arrived to CPCB office in Delhi. The exposure will take place in Agra with preliminary start date 23-24 November. The possibility to expose a minirack on Taj Mahal will be examined during the visit of *Vladimir Kucera.*
   - Nepal – rack has arrived and the start of exposure is planned to be during November 2006
   - Iran – different locations for the exposure were discussed. It was stressed that both from the scientific and the practical point of view an exposure in Tehran is preferable. The intention is to combine the exposure start in Iran and Nepal during the same travel i.e. in November 2006.
   - Tanzania – the exposure has started in September at a site in Dar es Salam situated about 15 km from the coast. *Albert Mmari* stressed that the passive samplers and specimens should in the future be sent directly to the Department of Physics of the University of Dar es Salaam.
   - Mocambique – the exposure has started on 8 September in Moputo on a site 8km from the coast. *Manuel Lazaro Chissico* reported further that the second set of passive samplers has not arrived.

8. Information on corrosion monitoring in Bhubaneshwar

   Dr S.N. Das gave an overview of the facilities and projects performed at the Regional Research Laboratory (RRL) in Bhubaneshwar, India

9. Information on classification of corrosion in Vietnam

   Le Thi Hong Lien made an extensive presentation of the classification of corrosivity in the territory of Vietnam expressed as a corrosion map.

10. Corrosive Marine Atmosphere in Tanzania

Albert Mmari reported on the exposure in marine atmosphere of the following building materials extensively used in Tanzania: galvanised steel, aluminium and cement based blocks. The exposure is being performed at 3 test sites with different distance from the sea which will permit the assessment of the corrosive action of deposition of sea salt.

11. Corrosion effects of air pollution and acid rain in Chong Qing

Zhao Dawei presented an extensive analysis of the results obtained so far in the CORNET exposure that clarified in an illustrative way the effect of some of the environmental parameters on the urban site and the rural site in Tien Shan Ping. An example was the higher corrosion rate of zinc caused by the much lower pH in precipitation compared to the urban site where the acidity is neutralised by alkaline particles emitted locally.

12. Information on stock at risk and mapping study in Nepal, Katmandu

Johan Tidblad presented the two-stage procedure consisting as the first step the mapping of the corrosivity in Katmandu using 10 so called miniracks. They should be exposed for one year and contain specimens of carbon steel, zinc and Portland limestone and passive samplers for SO_2, NO_2, O_3, HNO_3 and PM. At one of the sites the minirack will be exposed alongside with the main rack. The exposure is planned to start within November 2006. The idea and possible methodology for stock at risk were briefly presented.

Bidya Banmali Pradhan reported on the pollution situation in the Katmandu region and potential sites for the exposure of the main rack and the miniracks. The possibility to expose a local stone used in CH objects alongside with the Portland limestone was discussed. It was concluded that it would be possible starting e.g. one year later if additional funding could be raised.

13. Rules for publication and data release

Johan Tidblad presented the rules applied within ICP Materials. After a short discussion it was agreed upon to adopt this rules at present awaiting the future organisation of the work within CORNET which may lead to changes of the policy.

14. Future CORNET activities

a) Information from SEI: Proposal to Sida for Support for the Next Work Programme of the Global Atmopheric Pollution Forum

In the absence of a representative from SEI the UNEP representative *Mylvakanam Iyngarasan* gave a brief information on the Global Atmospheric Pollution Forum. There is a need to link activities in different regions where work is ongoing and to start work in regions where this type of regional activities does not exist i.a. some parts of Africa and Latin Amarica. One of the aims will be to harmonise these activities in order to be able to compare results.

b) Discussion of future work and organisation of the network

Chozi Lungo reported about the work and plans within APINA and the Maputo declaration.

The future work within CORNET will depend on the financing primarily from SIDA partly from the Global Forum project and partly from the next phase of RAPIDC which should start in 2008. It may be an expansion to regions where today these activities are missing and to include countries within the Male declaration and APINA so far not participating in CORNET. Among the countries participating in the meeting Bangladesh expressed a wish to participate in the work of CORNET in the future. Pakistan and the Maldives will consider their future participation.

15. Extension of time schedule

The activities in the individual countries will continue according to the original plan including the start of exposure on 4 new test sites, mapping and stock at risk assessment in Katmandu and evaluation of results from the 4-years exposure in KIMAB, and from the trend exposure in a majority of countries and in KIMAB.

16. Any other business

Albert Mmari proposed that for the next meeting all members should have a presentation of their own results using a similar structure. KIMAB promised to take an initiative before the next meeting.

17. Next meeting

No further meeting was planned within this phase of RAPIDC. It was, however, stressed from several of the participants that it would be very important for the further development of the programme and for continued engagement of the individual countries to organise CORNET meetings on a regular yearly basis in a similar way as the ICP:s within the LRTAP Convention. KIMAB was asked to approach SEI and UNEP if a reallocation of funds within the present phase of RAPIDC would be possible or if any other financial sources may be available. It was decided that if funding will be available the next meeting of CORNET will be held in the end of 2007 or the beginning of 2008.

18. Closure of the meeting

Johan Tidblad expressed thanks to all participants for joining the meeting, for their presentations and for the very fruitful discussions. A special thank was directed to the UNEP office in Bangkok for hosting the meeting and especially to *Mylvakanam Iyngarasan and Naw Wah Wah Htoo* for the excellent organisation and kind hospitality.